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A testing time at PerformancePC

By Geoff Whitebright

Product testing is the lifeblood of any technology publication – and things are no different here at PerformancePC. In this issue, you'll see a greater number of product tests – from our cover story (which is presented in two parts) to the piece from Techworldbits on video cards. We also help look under the hood of technologies from cooling systems to high performance memory.

In upcoming issues, we will also be looking at a variety of color printers, a range of new mobile phones, tax software (which many of you will be getting up close and personal with next month) and mobile computers. The goal is to give you the broadest range of choice of tools to make the most of your PC technology – and all the goodies that go with it.

The interesting thing is that which all these other technologies (such as mobile phones) may not seem to have a lot to do with PCs, they are increasingly muzzling up alongside them. For example, this month Microcell (the parent company of the Fido wireless phone company) partnered with Allstream to offer high-speed wireless Internet access to home users.

The venture has been undertaken by Allstream Inc., Inukshuk Internet Inc. (a wholly owned subsidiary of Microcell Telecommunications Inc.), and NR Communications, LLC. The companies launched its first Multipoint Communications Systems (MCS) network in Richmond. The three companies joined forces last November with the aim of using advanced wireless technology to offer integrated high-speed Internet, IP-based voice and local networking services to selected markets across Canada.

With the deployment of this new network, two new service offerings are being simultaneously launched this

month, one from Microcell Solutions Inc. under its Fido brand, and one from Allstream, Microcell and Allstream will provide competitive high speed Internet services using broadband wireless access (BWA) technology, to consumers and businesses in Richmond. Microcell is launching iFido, a residential wireless high speed Internet service, and Allstream is introducing a bundled wireless high speed service for small office and teleworking applications, as well as for enterprise customers with remote branch locations.

Inukshuk, as the spectrum licensee, operates the MCS network providing wholesale BWA services. The new network operates across 40 MHz of Inukshuk's licensed MCS spectrum, thereby offering customers the security, reliability and predictability of wireless systems that are able to use exclusively licensed spectrum bands.

The commercial service uses a wireless IP technology platform, provided by NextNet Wireless, a provider of next generation broadband wireless access solutions. NextNet's Expedience system claims to be "a reliable and proven system that is based on non-line-of-sight technology" that delivers "consistent broadband speeds across a broad coverage area."

The companies claim that this technology "combines the simplicity of a true plug-and-play system, with reliability, portability and competitive pricing". Installation is supposed to be quick and easy and does not require an external antenna or a service provider to roll up to your house or business.

We will watch this with interest and report back when we get a chance to try it out.

Happy computing! ▀

performancePC
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Frontier SilentPC Upgrade Kit Winner

WINNER



"Thank you PerformancePC Magazine and FrontierPC! I have to say I was quite surprised when I realized that the contest wasn't spine -good thing that I thought to check it out more closely!"

"This was done at a perfect time since I'm in the middle of (slowly) building a new PC and was figuring I'd have to sacrifice quiet for price in getting a case. Hooked forward to assembling the pieces."

"Thanks again to everyone involved!" said winner Robert Mertens

Contest winner Robert Mertens and Sales Manager of FrontierPC, Sam Chan



Pinnacle ShowCenter

By Douglas Alder

Background

This seems to be the year that hardware vendors have come to market with a range of products designed to bring the media content created or downloaded into your PC into the living room TV. A whole range of vendors are offering inexpensive non-hard drive-based boxes that connect to your PC via an Ethernet connection or through a wireless card to bring photos, music and movies from your PC to your TV.

Competition

Products such as the Windows Media Center Edition (WMCE) (www.microsoft.com/windows/wmce/index.htm) have no doubt inspired the interface of some of these units. The WMCE computers use a "two-foot interface", which allows for easy reading of menus, and navigation via a remote control. The problem with the WMCE units is that they tend to be on the expensive side. Hardware manufacturers, no doubt, got to thinking "why does the best have to have Windows?" and "hey, we don't even need a hard drive to do this."

Competitive hardware in the ShowCenter include systems by D-Link (www.dlink.com), Linksys (www.linksys.com), Roku (www.rokubox.com), Amos (www.amosnet.com), GoVideo (www.govideo.com), Kase Technology (www.kase-technology.com) and Pnauq (www.pnauq.com). Many of these units also offer a DVD player in the box. Ixi Gam Systems even has one called EyeHorse for the Macintosh (www.eliom.com).

So how does the Pinnacle ShowCenter stack up?

Setup

Setup of the Pinnacle ShowCenter is fairly easy so I attempted it first without a manual and it pretty much worked. Later I referred to the manual for some of the finer points. Plug the silver box into an Ethernet connection. Install the software. Let the software scan your drive for media files. The file path locations of all your photos, sound and video files are then imported into the ShowCenter PC software database. It does not seem to store the actual files, just references. You may want to try



Shirley R. Brinkman, et al.

where it looks on your drive to just your documents folder. Let it go wild on the whole drive and it indeed will find a huge bunch of graphics buttons from an old copy of NetObjects Fusion website creation software. Not very useful. Fortunately, deleting the whole database and starting again was very simple. It turns out that there is also a button in the Import menu that allows you to ignore Windows and Program Files directories. This is useful and one of the reasons it is worth looking at the manual.

Check Pinnacle's website for a new version of the software before installing. There is a version 1.2 available since early December 2005 which was not included in my package. It fixes some bugs and improves importing (feedback, somewhat).

I didn't intercept the wireless setup, but it apparently requires a PnMCIA approved wireless PCMCIA networking card an additional \$125.40. Inputs and outputs include Component video output and Composite video output (RCA), S-video output, Stereo audio outputs, digital audio outputs.



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Finally, enter the IP address of your host computer into the ShowCenter, using the remote control. This last step is the only really awkward part of the translation procedure, as the remote has buttons that act as both letters and numbers, so it is a bit like typing URLs into your cell phone. Not something you want to do everyday.


Actually if you are patient enough to wait until the ShowCenter PC software is finished indexing your media files, it starts up another small program called the ShowCenter Control Panel which starts broadcasting on port 8000. If you turn on your ShowCenter once this is on, you don't even have to enter a specific IP address, it is all automatic. Another reason to read the manual.

SpeedCenter PC Software

The interface on the PC is fairly straightforward. You can setup playlists and you have some control over the format your video and sound files are imported into the system. At first I thought there was a problem with the way it handled photos as it seemed that I had imported more photos than was showing up. Then I realized that some of my photos simply were not importing. It doesn't seem to handle that very well. There was no error log for importing to notify me of any problems. Later I noticed that there is a small text field that notifies you if there are errors in importing. It is not very specific, but it is better than nothing.

You can set up the PC software to "watch" certain folders to automatically add them to the ShowCenter's directory, so that as new media is added it will be available on your TV.

It would be useful if there was an "Update Now" button for the watched folders, so when I was finished copying new files, I wanted them to show up immediately. In fact, the whole import process could be made more intuitive, with more user feedback as to what is going on. I tried importing a DV file from my video camera and the program allowed me to select it, but then did nothing with it and gave no error feedback as to why it was choking on the file.



It is unclear from the manual how often the 'watched folder' is updated and since you can't archive it, I tended to just import things as I added them to the computer.

At first, I thought that when image files were imported, they lost their folder structure, as it was not totally clear in the ShowCenter PC software how to access files by folder. Yet on the TV, photos are grouped by folder – only it is called a Photo Album. Clicking a magnifying glass icon revealed the folder structure in the PC software.

TV Interface

The interface on the TV is designed with the couch potato in mind, though not quite as user-friendly as you

might hope, given that your only control is through a remote. After a while you start to see the shortcuts using various buttons to speed up moving around the interface.

Media files play at normal speeds over Ethernet and look good on the TV screen. This is a cool function having your videos available for TV viewing. The only downside is that you will probably have to convert your files to one of their supported formats. It doesn't seem to handle Quicktime directly. I tried importing both DV and MOV files, with no luck. On the website, it claims that the software can handle MPEG4 files, but in the manual and my experience, this does not appear to be so even with the third-party software.

On the PC, software it is possible to build playlists, combinations of songs or photos to be played together. At first I could not figure out how to combine music and photos in a single playlist. Then I discovered that you must first build your music playlist and then add it to a photo playlist. You can't just drag and drop a music file to the photo playlist. There is an option to change the display time of the photos. You can't add movies to playlists to photo playlists, but you can make movie slideshows.

It is possible to use the ShowCenter software to manage all your media files, it can import CDs to MP3s, burn CDs and even import video files directly from a digital video camera.

There is no web browser, which is available on some of the competitive products.

The Pirnacle ShowCenter does what it sets out to do, it displays and plays music, photos and video files from a computer onto a TV. That is all it does and all it will ever do. If you don't like the software, tough, that is what it does. The question you have to ask yourself is that should I shell out a few more bucks for a real PC with a TV out card and be able to use different software options, or live with the limitations of something like the Pirnacle ShowCenter. It is an interesting product, though a little expensive for what it does. Take off a \$100 and it would be a no-brainer. As it is, for \$129.999 some units include a DVD player. ■

Douglas Alder was the founding editor and publisher of the now-defunct publication *The Computer Paper*. In his spare time, he does FileMaker consulting and database development at HomeBrew Internet: www.hbwi.net

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High Performance Memory

By Babak Khosravi

Background

Choosing the right PC memory can be a confusing topic. It's confusing because there seem to be so many different types of memory. But once you spend a little time looking into the situation, you see that it's not as confusing as you thought once.

In the past, memory designers were more concerned about memory capacity rather than memory performance. It was just an accepted fact that memory is slower than the processor. CPU designers were designing faster and faster chips. This created an imbalance in performance of almost every PC. The design of large L2 caches on CPUs was to compensate for the bad memory performance. CPUs were spending too much time waiting for data from the memory. Most memory modules can handle simple 2D games, your basic desktop applications or even some older 3D games. The newer 3D games can be a lot more demanding on the memory. The newer memory modules must be able to handle faster frame rates. There are many types of memories out there. Here are the most common types.

Memory Type	Speed	Comments and Use
SRAM Still in use in cache and some memory modules. Fastest type of memory.	100ns 10ns	Most common in cache and memory modules.
DRAM (Random Access Memory) Standard type of memory used in most PCs. Fastest type of memory.	100ns 10ns	Most common in cache and memory modules.
DDR (Double Data Rate) DRAM Standard type of memory used in most PCs. Fastest type of memory.	100ns 10ns	Most common in cache and memory modules.
SDRAM (Synchronous Random Access Memory) Developed by Samsung, used in most PCs. Fastest type of memory.	100ns 10ns	Most common in cache and memory modules.

Memory Tested

In this article, I tested the Corsair Platinum series TwinX, 256MB memory module, The Kingston PC3200 512 MB memory and the OCZ 256MB dual channel enhanced latency.

Hardware and software used.

At my disposal were an AMD Athlon XP 1800+ on a Selek nVidia nForce2 motherboard. I cooled the CPU using a Pandion water-cooling system and completed the system using the ATI RADEON 9800 PRO 128MB video card. To

Memory Module	Approx Price	Picture (optional)
OCZ DUAL CHANNEL OPTIMIZED 2X256MB DDR PC3200 CAS2 W/ COPPER HEAT SPREADER	\$139.95	 www.ocztechnology.com
CORSAIR THINICE512 3200CL PC3200 2X256MB DDR 2-3-3 SILVER HEAT SPREADER	\$222	 www.corsairphoto.com
KINGSTON HYPERX 512MB DUAL CHANNEL KIT PC3200 2X256MB DDR 400MHz 18APIN	\$175.96	 www.kingston.com

test the memory modules, I needed to see what kind of effect my experiments were having on the system performance, before and after CPU-Z is a great freeware utility which displays detailed information about the CPU, cache, mother-

board and memory. CPU-Z can be downloaded from www.cpuid.com/cpu-z.php. It is pretty useless to test a faulty memory module. So to test the stability of the memory and whether there are any faults in memory addressing, I used MemTest86. Another great freeware utility from www.memtest86.com. I over clocked the system, and looked for major instability. Then I went back to the previous configuration and ran my favorite video editing program, premiere to render some videos. I looked for fps (frames per second) statistics, and if there were any frames dropped during the process. I judged the higher fps was an indication of a stable fast system.

Results

All the RAM modules performed very well with the CPU pushed to 2.0GHz. The OCZ gives the best performance for the back. Corsair is designed for the hard core gamers and power users. It has a sleek look. But other than the \$40 dollar price difference between Corsair and OCZ, it is hard to distinguish the two by performance. Kingston's memory proved to be reasonably overclockable in my tests. The price is marginally lower than the OCZ. If I had to choose between the two, I'd choose the OCZ, because of the better heat sink. A final point to ponder is how long you can keep an overclocked system stable. That is when the heat sinks come to real use. The OCZ memory modules come with "copper heat spreaders", I suspect that, that would last a little longer at over clocked speeds. ■



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Forsa GeForce FX 5600

By Jason Jacobs, [TechwareLabs.com](#)

Introduction:

TechwareLabs is pleased to have recently had the Forsa FX5600 in the labs for testing. At the time of this article the big two manufacturers in the Video card market are Nvidia and ATI. Both compete for market share as a neverending production of video cards. A consumer is easily lost in this battle for which card to buy, where a card produced two months ago is no longer at the high end. In truth the consumer merely needs a high end video card to still see appreciable gains in performance and have access to features available on high end cards.

Video Cards features are often among the following list:

- Handled Software
- Connection interfaces
- Internal support and chipset
- Core Speed
- Memory Speed
- Cooling
- Memory type

This is only a small listing of features that are specified. The Forsa FX5600 is considered a middle to low end budget video card with a current pricing of approximately \$90 - 120. This places it within a very affordable range for the consumer that desires 3D performance without breaking the bank.

NVIDIA GeForce FX 5600

- Graphic Core : 256-bit
- Core Speed : 325MHz
- Memory Configuration : 128-bit 128MB / 256MB DDR
- Memory Speed : 550 MHz
- Memory Bandwidth (GB/Sec) : 8.8
- Bus Interface : AGP 8X
- Pixels per clock (ppsk) : 4
- Vertices/sec : 81 million
- Pix Fill Rate : 1.3 billion
- RAMDACs (MHz) : 400

- Max Resolution - 2048x1536 @ 75Hz
- Monitor Support : Analog Monitor , HDB-15 connector , TV-out , S-Video , Digital Flat Panel , DVI-I

Those with a keen eye will note that the 5600 is AGP 8x, with a max resolution higher than most monitors support, and several interfaces available. For those with LCD displays, this card even comes with a DVI-I output.

Let's take a closer look

A closeup look at the Forsa GeForce FX 5600:



In addition to the video card, the 5600 comes with a licensed copy of PowerDVD, Driver Disk, and Games collection disk. It also arrives with an S-video to Phono cable, a DVI to VGA adapter, and a manual. The manual is quite well written and will walk you through the installation of the video card.

Immediately noticeable on the front of the box is the following:

Lights and additional glory details are rarely found on video cards, even on the high end. On a budget card, this sort of detail is unheard of. Once plugged into the AGP slot, and turned on, a cool blue glow emitted from an LED in the bracket. Computer mod-

ders will put lights in everything, from keyboards, fans and mice, to cables, hard drives, and the case. This video card comes prelit, a computer modders dream. Scores like Forsa has a handle on what makes the enthusiast crowd happy.

What's under the hood you might ask?

On to the testing:

3D Performance:

The Forsa GeForce FX 5600 was tested in both 3Dmark 2001 and 3D mark 2003.

The 5200 was installed into the following system for benchmarking:
Abit NF7-S
AMD Barton 2500+
512 MB PC3500 Kingston HyperX
Western Digital 800GB
Western Digital 800GB
Lite-On DVDRW
Samsung 52x24x52 CD/DW
Onboard NIC



While its obvious that the Forsa FX5600 is not on the bleeding edge nor breaking any 3Dmark records, this card was never intended to break records. Its performance in 3Dmark 01 and 03 is respectable for a mid to low end budget card, and even quite good.

The Force card was also tested for video playback quality using Microsoft Media 9 Series video clips. The "Coral Reef Adventure" (1080p, 8.2 Mbps, 1:43 min, 100 MB) video clip was used as it passes the highest amount of data through the system at 8.2 Mbps. Using the statistics function of media player to show the frames skipped and actual frame rate the following was observed:

Item	Actual	Target
Frames per second	23.97 fps	24.00 fps
Frames per second (average)	23.97 fps	24.00 fps
Frames per second (minimum)	23.97 fps	24.00 fps
Frames per second (maximum)	23.97 fps	24.00 fps
Frames per second (current)	23.97 fps	24.00 fps
Frames per second (estimated)	23.97 fps	24.00 fps
Frames per second (actual)	23.97 fps	24.00 fps
Frames per second (average)	23.97 fps	24.00 fps
Frames per second (minimum)	23.97 fps	24.00 fps
Frames per second (maximum)	23.97 fps	24.00 fps
Frames per second (current)	23.97 fps	24.00 fps
Frames per second (estimated)	23.97 fps	24.00 fps
Frames per second (actual)	23.97 fps	24.00 fps

At an average rate of 22.6 frames per second its just a hair under full motion video and on screen looked very smooth. The RX AGP and 128MB of DDR helps in that category and

Item	Actual	Target
Frames per second	23.97 fps	24.00 fps
Frames per second (average)	23.97 fps	24.00 fps
Frames per second (minimum)	23.97 fps	24.00 fps
Frames per second (maximum)	23.97 fps	24.00 fps
Frames per second (current)	23.97 fps	24.00 fps
Frames per second (estimated)	23.97 fps	24.00 fps
Frames per second (actual)	23.97 fps	24.00 fps
Frames per second (average)	23.97 fps	24.00 fps
Frames per second (minimum)	23.97 fps	24.00 fps
Frames per second (maximum)	23.97 fps	24.00 fps
Frames per second (current)	23.97 fps	24.00 fps
Frames per second (estimated)	23.97 fps	24.00 fps
Frames per second (actual)	23.97 fps	24.00 fps

are again a surprise for a budget video card. The frames skipped section which reads 0 tells the story best. The GeForce 4 Ti4600 recorded the following results:

Even though this card has a higher core and memory speed, the results are much worse. The video was barely watchable and constantly skipped. AGP 8X is indeed responsible for the better playback.

Gaming

Gaming:

Now I know what your thinking "Sounds great, a low priced card, that looks good. But can I play games with it?"

The Force FX5600 was tested under UT2003 and Quake 3.



As you can see the 5600 falls behind the Ti4600 and the 9600 in both games. It should be noted that the Force FX5600 is cheaper than the Ti4600 by approximately \$40 to 60 and the 9600 by approximately \$20 - 30 at current market prices. In its price range ATI currently offers only the 9000 and 9200 video cards.

On to the Conclusion

Conclusions:

As more and more consumers search for components that offer good performance while remaining affordable, manufacturers are under increasing pressure to meet this demand with products. Force seems to have supplied a product that can offer consumers acceptable 3D performance with features few cards in its class offer, at a price that is right for consumers. The lighted heatsink/fan assembly will definitely appeal to the gamers and computer modders, and offers a unique look that is rarely found.

Pro's:

- Low \$5Price\$5
- Lighted Heatsink Fan Assembly
- 128MB DDR RAM
- DVI, DVA, and TV-Out
- Nearly Silent when in use
- Acceptable 3D Performance
- Smooth Video Playback
- DVI to VGA converter

Con's:

- Average 3D performance in comparison to ATI cards
- Performance Enthusiasts will want more Power
- No full games included

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Color my world

By Geoff Wiersberg



Finding the right high-performance color printer has always been a tough task — largely because it is an expensive proposition and you just don't want to get it wrong. If, for example, you run a small, growing business that needs to do a lot of printing — and find that you're constantly needing to outsource print jobs to others for \$1 per page or more — you may end up deciding that it's going to be more cost-effective over the long run.

Now I know a business that is going through this process. I thought it offered the ideal scenario to test out the use of such a printer. It's called Citrod Corporation and provides wireless network management, optimization and security solutions — as well as connectivity tools for Wi-Fi networks.

The company needed to be able to have a printer that would allow it to print all its data sheets, product brochures, company newsletter materials and corporate backrounders — as well as CD covers, DVD covers and other sundry materials. It needed to have flexibility in paper-handling, provide high-speed printing and reasonable per-page costs for cost-savings.

So I decided to set up a test, which will run in two parts (the second part will run in next month's issue). The first part, presented in this issue,

involved using the Okidata C9500dn — a mammoth color printer with impressive speed (30 ppm), good resolution (1200 x 1200 dpi) and the ability to handle paper of various sizes and weights. And forgive my spelling of color — I like spelling it properly with a "u" — but for too many of the product names use the American spelling of color, so I have kept it that way for consistency's sake.

Okidata C9500dn

A warning: make sure you're not the only one in the office when this machine is delivered. Or better yet, have someone ready to help you set it up. It's the size of an office copier — and, at 155 pounds, is somewhat heavier. But that's OK — you want to make sure that you're getting your money's worth for the Cdn \$7,000+ price tag (the US list price is \$3406.99).

So this isn't really competition for the little color inkjet model that you might buy at London Drugs or Future Shop. It's a proper, heavy-duty machine that can allow you to operate your own limited-run production center in a small company. And that's exactly what Citrod needed it for — to produce limited-run documentation, brochures, sales support materials and corporate literature.

In fact, it's the kind of printer that you might typically use if you're

Las Vegas. At the annual Comdex trade convention (the last fall, there was one company that made a key claim that it wanted to transform the higher-volume printing market — and make a name for itself in the general office equipment market in the same time. That company was Hewlett-Packard (HP), which said the show was a move to introduce a broad range of products, services and capabilities to that HP area will "help customers improve productivity and reduce costs by as much as 32 percent in their imaging and printing environments."

The centerpiece of this new product range is a copier-based line of high-volume multi-function printers: the first of these had HP as a co-brand for \$24 million copier market. The company also announced document workflow solutions for integrating front processing and managing documents, and a workflow virtual customer, including Best Buy, National Semiconductor and Subway who are working with HP to transform their imaging and printing operations.

"As more content and business processes go digital, there is a tremendous opportunity for companies to leverage the power of the network to improve productivity and reduce the operating costs across their imaging and printing environments," said Howard John, executive vice president Imaging and Printing Group, HP. "HP's printing heritage and network management expertise give us a unique position to help companies take advantage of these new opportunities."

According to Gartner analyst Peter Swett, "Fully networked printer capabilities and fast lanes represent one of the biggest opportunities for cost cutting in the enterprise. By actively managing the document, companies can not only save up to 30 percent in output-related spending, they can increase employee productivity."

HP launched new product capabilities and services to transform the traditional copier market by reducing the total costs of operation. In essence, HP says that companies spend more than \$200 per employee operating their copying and printing environments — up to \$4 million a year for a 5,000-person organization.

HP's new solution extends its Total Print Management offering an integrated portfolio of intelligent devices, network manageability software and customizable services that ease copier operation costs and significantly improve the bottom line. The new copier-based HP Jetdirect 300S and 300S multi-function printers (MFP) have a HP's network manageability. These products, as well as the new HP LaserJet 9200 MFP extend what is perhaps the industry's most comprehensive imaging and printing solution portfolio.

In addition, HP introduced a number of management software, document capabilities and pay-per-use options such as:

- HP Web Jetdirect 75: the next generation of HP's leading imaging and printing fleet management software now will link to HP's new System Insight Manager. According to HP customer data requirements, using HP's Jetdirect has reduced

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Dimensions / Physical Specifications

Width • Without Feeder: 26.2" (66.3 cm)

• Optional Feeder 29.4" (74.8 cm)

Depth • Without Feeder: 22.2" (56.9 cm)

• Optional Feeder 35.2" (89.0 cm)

Height • Without Feeder: 18.2" (46.0 cm)

• Optional Feeder 35.1" (89.5 cm)

Weight • Without Feeder: Approx. 75 lb (70.7 kg)

• Optional Feeder: Approx. 105 lb (75.8 kg)

Processor 600 MHz (PowerPC CPU)

Additional Features

Software • Color Management: Munsell/ColorMach™ for DR, Automatic DR Color Matching, Pantone® CMX, Windows® Color Management, ICC Profiles. Also supports color management systems that store ICC profiles (Apple® ColorSync™, Microsoft EM Adobe® Color GamutPress™, ColorWare™)

• Ink Solutions: SWOP™, Euroscale and others

• Color Matching Matrix: sRGB, Monitor Simulations, Digital Colors

Warranty

Warranty • Printer: 1-year limited on-site warranty, parts and labor

• Digital LED Printhead: 5-year limited warranty

NEXT ISSUE: The Lexmark Z540 and our conclusion about these test printers.

help desk and management costs by approximately 10 percent.

Assessment capabilities and services • From Web-based sales/service tools to a comprehensive consulting instrument, these services help customers increase the utilization of output devices, improve site productivity and reduce costs.

Scalable pay-per-use services and billing options, which HP uses with two customers' transparent and predictable charges in the purchase and management of their imaging and printing services, from low-level pay-to-copy-per-page to pay-per-use services.

In addition, HP has signed an agreement with KDS Office Solutions, a paper and document management company. The relationship provides HP with broad U.S. distribution and service expertise through KDS's 12,000 sales and service professionals. HP also announced a new agreement to distribute its high-volume multi-function products.

The new solutions in HP's portfolio are further highlighted by offerings to help companies improve their business processes and document workflow. These solutions include:

- HP Forms Automation System based on the new HP Digital Ret and Paper technology, enables companies to significantly accelerate paper forms processing and directly reduce costs. It provides the experience of pen and paper, but with instant digital availability. The offering is targeted at medium and large enterprises in healthcare, banks, air, insurance, manufacturing and the public sector, which represent an addressable \$2 billion market processing 6 billion paper forms annually. HP printing technology embedded into the HP Workflow Connector 200 server-based software, joins continuous forms on demand using select HP LaserJet printers. Each form has a unique background pattern and is filled out using the HP Digital Ret 200. The captured information is automatically uploaded for instant processing. With less than one-third the cost of traditional paper forms processing, HP says the Forms Automation System automates business processes while increasing the convenience, timeliness and mobility of pen and paper.

- HP Digital Reading Software 3.0 Secure Workflow and HP Digital Sending Software 3.0 Workflow solutions — which HP says will expand a company's existing digital printing capabilities to include additional functionality. This enhanced software enables users to capture content from network-mounted multi-function products. New features include secure remote secure workflow, enhanced document security and flexibility in document routing.

HP offers a solution for delivering intelligent documents based on HP Output Server and the Adobe InDesign Document Platform. The combination of HP and Adobe technology allows the multi-channel delivery of documents that can be integrated with core enterprise systems and stored in a central business processes inside and outside the firewall. ■

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5	0794506130	Microsoft Office XP First & Last	Diane Korte	Forrest Press
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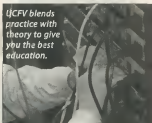
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What's New in the MusicLand

by Mike Cavaliere

Pioneer's New DVD Turntable

Musical performers have been accompanying music with video in live performances for quite some time, but it has usually involved the challenge of working with separate sound and video sources. Pioneer has announced a piece of hardware for DJs and video artists that changes this, enabling a new level of integration in audiovisual performance. The DVI-X1 DVD turntable, scheduled to come out in Spring 2004, allows DVDs to be manipulated like records, using a large jog dial similar to that of CD turntables. With the DVI-X1, audio and video from a DVD can be pitched up or down, looped, or even scratched. In the future, Pioneer plans to release a mixer designed to link two of these devices, outputting an audio/video mix. If this technology becomes popular, a new market may emerge for DVDs specially authored for DVD turntable use.

More at: <http://www.gioneonprod.com/>

Open Labs' Neko64



In the last decade, the use of computers for performance by electronic musicians has become commonplace, with specialized peripherals employed to emulate the keyboard, knobs, and sliders of traditional synthesizers. The reason computers are used instead of synthesizers is flexibility: computers support a vast amount of sound creation and composition software. The downside of total flexibility, however, is complexity. While a traditional synthesizer workstation is a carefully engineered creation environment, it is not always easy to get the same level of stability and predictability out of a jumble of computer hardware and software. Open Labs has come out with an idea that may solve this. In order to provide the standardized hardware interface of a traditional synthesizer workstation, Open Labs has created the Neko64: a computer with the form factor of a synth.

More at: <http://www.openlabs.com/neko64.php>

The iPod Killer?

Apple's iPod, and other hard-drive based MP3 players, offer no removable media support but, until now, have been the only easy way to easily access one's music at any place and time. Portable compact disc players with MP3 support have offered a removable media alternative, but listening to music on these requires that one goes through the trouble of burning CDs and carrying them around. Sony's new Hi-MD players offer an alternative. MiniDiscs, which are smaller and lighter than CDs, haven't, until now, offered the storage capacity of a CD. Sony's new Hi-MD format revamps the format. Each Hi-MD stores a gigabyte of data—more than a compact disc. The players connect directly to one's computer and, in addition to storing MP3 and WMA files for playback, can store other types of files. When these hit stores there are going to be plenty of happy music buffs.

More at: <http://news.scl.sony.com/pressrelease4270>



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If you're like me, you remember the thrill of un-boxing a brand new computer, plugging it in and then switching it on, and immediately realize the difference in speed of your new machine over the old. So why is it that only a few months later the new machine seems to take as long – if not longer – than the old machine originally did at loading up a simple app? The answer may well be that your computer has become thoroughly “gunked up”, meaning that it’s former lightning-fast efficiency has been compromised by all of the various bits and pieces of digital detritus that it has managed to accumulate. If your computer is beginning to seem old before its time, maybe *Degunking Windows* is the book for you.

Co-authored by veteran computer book writers Jeff Hallow and Jeff Dauterium, this book takes a six-by-step approach to ridding your computer of gunk. What exactly is computer gunk you ask? It can be everything from duplicate files on your machine taking up unnecessary space, to programs you don’t need or use anymore, un-optimized hard drives and ways to prevent your email getting clogged up with useless spam and malicious viruses. These are the types of topics normally covered off in bits and pieces in other books, but rarely covered completely, or as well, as this book does.

Aimed primarily at the novice computer user, this book contains many tips that expert computer users will already be very familiar with – such “basic” things as defragging your hard drive, backing-up and cleaning out old emails, emptying your status bar of memory-sucking programs you don’t use, and how to find and remove any spyware that might have crept onto your system – all things that steal valuable system resources. While many more experienced users may be able to think of ways to tackle these issues right off the bat, there are a lot of people who will find this information extremely valuable. You might even get your money’s worth out of the book just by following

the instructions provided on the first few pages for a basic 10-minute degunking, a more intensive hour-long degunking or a dedicated half-day’s worth of degunking.

That’s not to say that there isn’t more advanced material here – there are sections that take a look at how set up multiple virtual desktops, how to tweak your UI to your tastes and clean up your registry settings, mostly using a number of shareware programs. This is about the only downside of the book I could find, because if you ended up downloading many of the helper programs listed here, and ended up using them only the one time, you are likely to create some new gunk to clog up your computer.

Still, this is a very good introductory book aimed at relative neophytes who don’t realize that they can get more out of their existing computer by doing some occasional “cleaning”. If you have a friend who is considering upgrading their computer when you know that what they have is perfectly adequate for their needs, think about passing them a copy of this book. ■

RATING

Information content: ***

Readability: ****1/2

Intended for: Beginner

Overall Rating: ****1/2

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Book Review

The Pandora Water Cooling System

By Bobak Khosravi

Unless you plan on Over Clocking your PC, you really don't need to waste your money on a water cooling system that performs worse than an air cooler. I really question why Pandoras even bothered releasing this cooler, when it performs worse than your average air cooler. This is a low end water cooling system, priced at about \$130 dollars, and if you have a leak in your connections, the results would be disastrous. You would end up paying much more in the long run for replacing your burnt devices. With that out of the way, let's get to the analysis. The first thing that I noticed was that this was a submerged cooler. With a limited water reservoir, one of the characteristics of a submerged cooler is that the heat generated from the pump transfers to the surrounding water that is used to cool your CPU. This is nothing compared to the following characteristics, which is: the cooling capacity of a water cooler is determined by two factors, the width of the tubes, and the power of the pump. The

Pandora water cooling system uses 3/8" tubing. That is perfectly ok as long as the pump is strong enough. I could not find the specs for the pump used in Pandora, but it definitely does not look like it can handle any big task. There are a couple of advantages with having a submerged water cooling system. One is that the pump is almost silent. The surrounding water muffs the sound of the pump. The second advantage to having this system is that it will make your pc look real cool in parties. The Pandora water cooling system is a big waste of money. Personally, I would put my money towards buying a better cooler. Word of advice, let the water cooler run for one day outside of your PC to check for leaks or weak connections before installing it. I learnt this the hard way when I almost burnt my video card.

Pros: Very Quiet, relatively cheap

Cons: Weak Pump, Small Reservoir, Loud Fan, Low Cooling Potential, Submerged Pump, bad instructions

Color My World

Continued from page 18







variety of documents with a range of color coverage on them. Color coverage is simply the amount of color information on the document – as in, the amount of color tones that you use and the amount of time that it takes to go through “consumable” (often a good reason to look at a color laser, rather than an inkjet, for higher volumes of color printing).

We also tried different volumes of printing, from a full pages right through to full product manuals – as well as different paper types, including labels for CDs and DVDs.

The printer performed very effectively on all tasks and didn't have any problems with the varying paper types. The first few sheets we printed didn't quite offer the color

crispness we were expecting, but after a “warmed up” test reservation disappeared. Perhaps the most impressive aspect of this printer was its speed. Even running large jobs with a fair degree of color, the Okidata C9500dtn took everything we could throw at it and didn't choke.

And that's with the minimum factory-specified amount of memory (320 Mb of RAM) – it can take up to a full GigaByte of RAM. Installation was pretty simple. As you would expect for a machine of this price, you plug the Okidata C9500dtn directly into the network and it just works – all you have to do is load drivers on any machine that needs to print to it. Okidata also includes color management software to help you ensure that what you see on the screen is what gets printed out the other end.

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668 F. K. S. Lee and S. C. Lee / *Int. J. Environ. Res. Public Health* 2020, 17, 3923

doi:10.1017/S0022292412001517

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